a trolley car in this region. The lower limbs were completely paralyzed, no involuntary movements were noticed. Sensation lost entirely below Poupart's ligament, except on the front and outer parts of the thighs (ext. cut. nerves). Inability to urinate and defecate was presented. The 11th thoracic vertebra was found elevated, the 12th depressed. Death from exhaustion. The autopsy revealed considerable extravasation of blood into the muscles and connective tissue at the seat of injury, the laminae of the 11th thoracic vertebra were fractured, and there was extradural hemorrhage. No displacement of the vertebral bodies. The dura was intact, and no hemorrhage was observed within it. The cord was firm, of normal shape, and showed no signs of softening exteriorly. No indications whatever were evident macroscopically of pressure on the cord, microscopically were found displacement of fibres in one portion of the cord, numerous hemorrhages, altered blood pigment, masses of granular corpuscles, necrosed tissue, swollen axis cylinders, tumified ganglion cells and round cell infiltration. The spinal roots contained a few swollen axis cylinders, and the medullary sheaths did not stain quite so deeply with haematoxylin as normally. Blood vessels everywhere much dilated. The pathological results are the more important as they occurred early, the patient dying five days after injury. After citing various cases bearing upon their subject, and one recently published by Westphal similar to their own, the authors call attention to the facts recorded in this case. Paralysis of the lower limbs ensued immediately after injury, yet no lesions due to compression through fracture pressure were found. They consider the symptoms due to the pathological changes found in the cord, and the case one of so-called concussion of the spinal cord in which condition we are not wont to await clear structural changes. The communication is of great importance, and contributes not a little to the possible pathology of "railway spine" and the traumatic neuroses. When we consider that cases of this character, unless there be serious damage to the cord which can be determined exteriorly, seldom come to autopsy early after the injury, the changes enumerated above assume more dignity. Their significance for those cases which, after a lapse of time, we usually consider purely functional in nature, *i. e.*, traumatic neuroses, traumatic neurasthenia, etc., should not be underestimated especially as these cases so frequently demand recognition before courts of law.

STERNE (Indianapolis).

TRAUMATIC NEUROSES. A. L. Hall, M.D. (Med. Record, Sept. 26th, 1896).

The surgeon should be an equal authority with the neurologist in determining the sequences of trauma upon the nervous system. Neurasthenia is the usual form under which traumatic neurosis expresses itself, and its symptoms are indistinguishable from neurasthenia arising from other causes. The actual condition of the patient previous to the accident must be known in order to reach a correct estimate of the injury sustained by the nervous system. The type of symptoms manifested, whether neurasthenical or hysterical, is often a question of vital importance in the adjudication of a claim for damages. Traumatic neurosis occurs oftenest at the centres of population, but is by no means rare in country districts. It is probable that traumatic neurosis is dependent upon some definite, yet unknown change in the arrangement and structure of the cellular elements of the nervous system, which gives rise to stable rather than unstable symptoms. A stable, well-organized symptom-complex indicates damage to the nervous structures, while instability of symptoms and want of orderly arrangement denotes trivial injury, and if long continued, simulation is rendered probable. The so-called "objective symptoms" depend upon the psychical rather than the physical state of the subject, and are unreliable guides to diagnosis. A correct diagnosis is best obtained from a reliable account of the accident, the previous history, the presence of surgical troubles, and the existence of a stable, well-defined, organized symptom complex. The term, traumatic neurosis, is an expression for an indefinite condition, and a simplification of the subject is desirable from a clinical standpoint. FREEMAN.

TETANY. Boston Medical and Surgical Journal, Nov. 19th, 1896.

Howard A. Lothrop, M.D., reports three cases, one of which was in an adult, a pregnant woman, thirty years of age, native of Syria. The salient points of this case were recurrent attacks of tonic spasm of symmetrical groups of muscles in the arms and legs, preceded and accompanied by pain, numbness and prickling. At the height of the spasm the patient was powerless to move either fingers or toes, and was utterly unable to walk. Fibrillary contractions of the facial muscles were marked and constant about the orbits. Gentle percussion over the larger branches of the facial nerve on either side provoked violent contractions in the corresponding muscles (Chvostek's phenomenon). The arms were held at the side and flexed at the elbow; the hands were in the position known as *main d'accoucheur.* There was flexion at the wrist and metacarpo-phalangeal articulations while the two distal phalanges were extended. The thumb was drawn across the palm of the hand, which was made hollow by the over-prominence of the thenar and hypothenar eminences. Both hands were symmetrical and the positon was maintained by tonic muscular spasm. The flexor muscles of the forearm and the smaller muscles of the hand were very tender and painful as a result of this forced muscular action. Pressure on the ulnar nerve above the internal condyle served to increase the pain and render the muscles more tense. Voluntary motion was impossible, and her hands were useless during the spasms, which lasted from a few moments to an hour or more. The tendon reflexes were absent during an attack of spasm and were normal in the interim. Attacks of spasms in the hands and feet could be obtained at will by nerve pressure as first described by Trousseau. There was increased excitability of the nerves to electric currents, particularly the galvanic, as demonstrated by Erb and Hoffman. These symptoms developed about the seventh month of pregnancy and diminished as she approached the time of her confinement. The labor was perfecty normal and there have been no further spasms since the birth of her child.

The other cases occurred respectively in a boy aged three and a rachitic male child eighteen months old. SHIVELY.

TETANY IN CHILDHOOD.

Kalisher—Yahrbuch für Kinderheilk., Band xlii., Heft 3 und 4—discusses the frequency and characters of tetany in childhood. As diagnostic criterion he gives the presence of tonic spasm without loss of consciousness, affecting mainly the interossei and small hand muscles, producing flexion of the proximal and extension of the middle and end phalanges with strong adduction of the thumb and pressing together of the fingers—"obstetric hand"—the foot generally in equinovarus position, the great toe overextended the other toes flexed. The symptoms of Chvostek and that of Trousseau are generally but not always present. They occur also in other diseases. Increased electrical irritability is more constant. An elaborate scheme for examination of cases is given. In a study of a material of 2191 cases under 2 years K. found 1141 cases of rickets, with 3 cases of tetany, while among the 1077 cases free from rickets there were 2 cases of tetany, a total of 5 cases among 2191 patients. He concludes that while rickets may be a predisposing cause, it can hardly be considered to have a very close relation to tetany. An examination of the literature of the subject and his own experience convinces him that tetany is a